

REMARKS

Responsive to the non-final Office Action mailed September 14, 2004, the Applicant respectfully submits the above amendments to the claims and specification and the following remarks. Reconsideration of the present Application is requested in light of these amendments and remarks. For the reasons set forth below, it is submitted that the present Application is in condition for allowance and such action is respectfully requested.

Specification Objection

The Office Action objects to a reference to U.S. Pat. No. 4,608,208 as being in error. Applicant can find no reference to this patent in the Application. Applicant believes this to be a “cut and past” error made when the Office Action was prepared.

Section 103 Rejections

Claims 1-21 of the present application stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Holbert* in view of *Murray*. In what is a clear hindsight reconstruction of the present invention, the Office Action combines two references that together provide no suggestion of such a combination and that do not teach all of the elements of the claims.

Holbert disclosed a joint in-fill system using the heavy aromatic hydrocarbons. The Office Action acknowledges that *Holbert* does not teach or disclose ester compounds or their amounts or the polyglycol component as claimed by Applicant. Applicant has discovered a way of consolidating aggregate that eliminates aromatic hydrocarbons such as are required by *Holbert*. Therefore, to the extent that *Holbert* is relevant, which is not at all clear, Applicant eliminates the disadvantages including environmental and safety issues associated with the aromatic hydrocarbons of *Holbert*. Further, Applicant has discovered that his new system can be applied to aggregate consolidation.

1. Office Action Analysis of the Polyglycol Limitation is Impermissible Hindsight and not Based on any Suggestion from the Cited Art.

Claims 1 – 12 and 14 include a “polyglycol” limitation. Incredibly, the Office Action completely ignores this important limitation of these claims. The Office Action

states that *Holbert* “does not particularly require polyglycols as added elements.” This is a significant understatement. *Holbert* does not disclose the use of polyglycols at all. The Office Action states that this limitation is readily envisioned from the teaching of *Holbert*’s disclosure of polyhydroxy containing compounds. That is simply an error. There must be some teaching within *Holbert* to make this conclusion and the Office Action cites to nothing. Further, the Office Action states “if one were not interested in utilizing the preferred rapid set effects of the preferred amine based tetrols...”. This is hindsight analysis. It does not matter what one might be interested in, it matters what is taught in *Holbert* -- rapid reaction. *Holbert* clearly teaches that it is important to have rapid setting effects. *Holbert* states:

According to the present invention, the gap between the concrete coating on successive pipe links is filled by molding in place a **fast setting** elastomeric polyurethane or polyurea, either foamed or solid, which includes a uniformly dispersed filler material. ... **Within 5 minutes** of casting, the pipe with the infill of this invention can be pulled over guide rollers and down a stringer or across a beach or ocean bottom. *Holbert*, Summary of the Invention, column 2, lines 12-24 (emphasis added).

The “rapid setting effects” are one of the main objectives of the *Holbert* invention.

A further object of this invention is to produce such a joint in-fill system which can be molded in place and can be **set up in a short time** for the pipeline to be handled **almost immediately**. *Holbert*, Summary of the Invention, column 3, lines 38-41 (emphasis added).

There is no teaching or suggestion in *Holbert* to slow down the reaction of the composition or to use a polyglycol of any kind. The Office Action takes Applicant’s invention and through hindsight, attempts to modify *Holbert*, given Applicant’s disclosure information. This is an improper basis for rejecting claims.

Further, the Office Action completely ignores the specific range limitations for the polyglycols in the claims. It was Applicant that developed the idea of using this unique combination of components to reduce an aggregate consolidation to develop a specific product giving limitations to produce the goal. The Office Action must find some reference which discloses the limitations of the patent before it can “hold the claims to be unpatentable.” The Office Action does not use any prior art to make this holding.

Applicant respectfully suggests that the obviousness rejections for these claims should be withdrawn.

2. Holbert Teaches Away from the Murray Combination

The Office Action attempts to overcome the lack of an ester diluent of *Holbert* citing *Murray*. *Murray* discloses a polyurethane adhesive which initially foams, and then collapses into a void-filling membrane. *Murray* does not include any teaching or suggestions to use polyglycol. The *Murray* adhesive is taught to be used as a construction adhesive in the insulation of ceramic tile, asphalt shingles, roof insulation board, and wood flooring. The combination of *Murray* with *Holbert* is inappropriate.

Other than the two patents being generally in the area of polyurethane chemistry, there is absolutely no teaching or suggestion within either *Holbert* or *Murray* that the two should be combined. In fact, *Holbert* teaches away from the combination that the Office Action makes. *Holbert* teaches the use of liquid organic carbonates as plasticizers because “in the composition of this invention they reduce the propensity of the composition to shrink as it cures, and therefore reduce the tendency of the product to crack under stress produced during curing.” *Holbert*, column 6, lines 59-67. *Holbert* then goes on to teach away from other plasticizers saying, “other plasticizers which have been tried do not produce this advantageous result.” *Holbert*, column 7, lines 1-2. Despite this warning, the Office Action, using clear hindsight, makes the replacement of the ester components shown in *Murray* with the organic carbonate of *Holbert*. There is certainly no suggestion in either *Murray* or *Holbert* to replace any other component of *Holbert* with an ester diluent. The “emulsifiers” of *Murray* are not selected to reduce the propensity for the composition to shrink as it cures, because *Murray* is a collapsing foam—which by necessity shrinks as it cures. Nothing else in *Murray* suggests that esters can be used to achieve the advantages of liquid organic carbonates in *Holbert*’s inventions.

In sum, there is no teaching or suggestion to combine *Murray* with *Holbert*, and in fact, *Holbert* teaches away from such a combination. Therefore, the rejection of claims 1-21 as being obvious in view over the combination of *Holbert* and *Murray* is improper and should be withdrawn.

3. The Patentable Distinction of Applicant's Recipe Cannot Be Ignored.

Regarding claims 1 and 21 and the claims depending therefrom, the Office Action completely discounts the importance of Applicant's claimed recipe of components. Applicant's claims requires 20-45 weight percent TXIB in the B-side component. It is undisputed that neither *Murray* or *Holbert* teach such limitations. Applicant has previously addressed the polyglycol range limitations.

The Office Action states, "with respect to the amount of additive, *Murray* is not limited to amounts of plasticizers/emulsifying material beyond suggestions of preferable quantities, and it has been held that it is obvious to vary a result effective variable with the expectation of success." As an initial matter, Applicant requests citation in either *Holbert* or *Murray* that the ester component is a "result effective variable" and a statement of what result is expected. See MPEP 2144.05.

Further, the preferred range of emulsifier disclosed for the B side component in *Murray* is 1% to 5%. There is no indication anywhere in *Murray* that more of this component can be used. Applicant's claim is for the TXIB in the B side of 20% to 45%. Apparently, the Office Action finds that it would be obvious to increase the maximum amount of amount of TXIB **at least 4-fold** when combining *Murray* with *Holbert*. There is absolutely no justification for this and this goes well beyond minor adjustments to the formulation. *Haynes Int'l. v. Jessop Steel Co.*, 8 F.3d 1573, 1577, n.3 (Fed. Cir. 1993) ([R]ejection is properly established when the difference in range or value is **minor**.) (emphasis added). There is nothing cited to suggest such a drastic change would have an "expectation of success." There are no overlapping ranges disclosed. It is beyond the pale to argue that it would be obvious to increase the small amount of emulsifier additive used in the *Murray* disclosure, to an amount which includes so large a portion of the B side component.

Additionally, the liquid organic carbonate of *Holbert*, which the Office Action substitutes *Murray* for, is shown only to be used as 5% of the B side components (see examples 1 and 2 of *Holbert*). This is in keeping with the *Murray* teachings, not Applicant's claim.

4. Applicant's Dependent Claims have been Ignored.

There is no teaching or suggestion in either *Holbert* or *Murray* of a polyurethane foam having a density of between 2 and 12 pounds per cubic feet the limitations of claim

9. In fact, *Holbert* teaches that with foaming the density of the material may be reduced to one-third of its unfoamed density of about 66 pounds per cubic foot. That is a low of 22 pounds per cubic foot. Much higher than the low density foams disclosed and claimed in Applicant's present claims.

Dependent Claims 12 and 20 are directed to the method of introducing the reaction composition below ground. There is no teaching or suggestion of such in either *Holbert* or *Murray*. *Holbert* very specifically is designed to reacting within a mold and *Murray* is only shown to be a constructive adhesive for surface adhesives. There is no basis in either of the cited patents to reject these claims.

Double Patenting Rejections

The Office Action includes a obviousness type double patenting rejection over claims 1-13 of U.S. Patent No. 6,521,673, and provisional obviousness type double patenting rejections over pending application Nos. 10/801,164 and 10/326,338.

Although Applicant believes it is unnecessary and the double patenting rejection is improper, Applicant includes a terminal disclaimer to overcome the provisional obviousness type double patenting rejection over co-pending applicant No. 10/801,164. These applications were filed on the same date and, therefore, there is no term difference incurred by filing a terminal disclaimer.

Regarding the double patenting rejections over U.S. Patent 6,521,673 and the provisional rejection of patent application 10/326,338, Applicant respectfully disagrees and suggests these rejections are not proper. Double patenting rejection must rely on a comparison of the claims in the issued or to be issued patent with the claims of the pending application. The '673 claims are directed to a composition for preparing a rigid foam ('673 claim 1) and a method of preparing a rigid foam (claim 11). The '338 Application is similar. The pending claims in the present Application are directed to a method for consolidating aggregate material. These claims involve steps such as introducing a reaction composition into aggregate material. Even if Applicant believed that the composition used in the pending method claims was the same as what is disclosed in the '673 patent (which Applicant does not), Applicant's claims are patentably distinct. It has long been held, based on statutory authority, that a patent may be granted on a process which is a new use of a known process or composition of matter.

The '673 patent claims disclose nothing in regard to a method to consolidate aggregate materials. To make this double patenting rejections over the '673 claims, one must assume that all new uses of the composition are obvious which is contrary to law.

The obviousness type double patenting rejection based on the '673 patent is improper, as is the provisional rejection over the pending '338 application. These references disclose nothing of a joint fill method such as claimed in Applicant's pending claims. Applicant respectfully requests that these rejections be withdrawn.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the claims are allowable and such allowance is respectfully requested. Applicant's comments towards the independent claims are intended to address any rejections of any dependent claims not specifically mentioned. Applicant has addressed all claims standing under rejection. If the Examiner has any questions or wishes to discuss the claims, Applicants encourage the Examiner to call the undersigned at the telephone number indicated below.

Respectfully submitted,



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